

PCT/IB2004/000054

A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 F03B13/18 F03B13/20

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 F03B

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 4 603 551 A (WOOD PETER) 5 August 1986 (1986-08-05) abstract column 5, line 26 -column 6, line 17 figures 1-11	1
A	DE 41 43 011 C (LAMBRECHT) 15 April 1993 (1993-04-15) abstract column 4, line 62 -column 8, line 53 claim 1; figures 1-19	1
A	US 6 226 989 B1 (NOR EACUTE N ANDERS ET AL) 8 May 2001 (2001-05-08) abstract; figures 1,2	1

-/--

Y Further documents are listed in the continuation of box C.

Y Patent family members are listed in annex.

* Special categories of cited documents :

A document defining the general state of the art which is not considered to be of particular relevance

E earlier document but published on or after the international filing date

L document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

*O document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

* Later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention.

***X** document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

*& document member of the same patent family

Date of the actual completion of the international search

4 May 2004

Date of mailing of the international search report

14/05/2004

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2
NL - 2280 HV Rijswijk
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,
Fax (+31-70) 340-3016

Authorized officer

Steinhauser, U

INTERNATIONAL SEARCH REPORT

PCT/IB2004/000054

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	<p>DE 39 12 943 A (SCHELLHORN KARL HEINZ) 30 November 1989 (1989-11-30) column 3, line 53 -column 4, line 11</p>	1

INTERNATIONAL SEARCH REPORT

PCT/IB2004/000054

Patent document cited in search report		Publication date		Patent family member(s)	Publication date
US 4603551	A	05-08-1986	AU	2335884 A	18-06-1984
			BR	8307715 A	16-04-1985
			EP	0151118 A1	14-08-1985
			WO	8402162 A1	07-06-1984
			GB	2159214 A ,B	27-11-1985
			NO	842991 A	23-07-1984
DE 4143011	C	15-04-1993	DE	4143011 C1	15-04-1993
US 6226989	B1	08-05-2001	SE	508308 C2	21-09-1998
			AU	2721197 A	19-11-1997
			EP	0897471 A1	24-02-1999
			GR	3035973 T3	31-08-2001
			PT	897471 T	30-08-2001
			SE	9601637 A	30-10-1997
			WO	9741349 A1	06-11-1997
DE 3912943	A	30-11-1989	DE	3912943 A1	30-11-1989